

Industrial Experience Report

SUBMITTED TO

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BY

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OVERVIEW

This report will provide an overview of my industrial experience with Innovative Systems. I worked in the business development center location off of South Dakota School of Mines and Technology's main campus in Rapid City, SD. I began working June 1st, 2012 and have worked with them throughout the school year. I plan on leaving the company May 7th, 2012 shortly after graduation.

This past summer I worked on a team of three on two separate iOS applications. We designed the applications in accordance with the requirements provided by the Innovative Systems main office staff in Mitchell, SD. Both applications were successfully delivered to the App Store on schedule. Links and screen shots of these apps may be found at the end of this paper under "Figures". It was an exciting and valuable experience from which I gained knowledge that will help me with the remainder of my schooling as well as future occupations.

During the school year I worked with Innovative in concordance with my Senior Design Project. I worked with a new team of three to produce two more applications on two separate platforms for a total of four applications. Two were on Android, and two were iOS. These applications will hopefully be on the App Store sometime this summer. I worked about 15 hours a week during normal school weeks. However, since these projects were technically part of my Senior Design class, I will not be mentioning them here.

EMPLOYER DESCRIPTION

Introduction

Innovative Systems is a small company consisting of less than 200 employees. They are based in Mitchell, SD where they develop and provide hardware and software for the

telecommunications industry. Their main product is the APMAX, an application server that provides both voice and IPTV services. More information on Innovative Systems can be found on their website, www.innovsys.com.

Intern Role

I worked closely with my team of three and our mentors, averaging 40 hours a week. There were a total of 9 interns and two mentors on site. We reported directly to our mentors as well as the staff at Mitchell to update them on our progress. The apps we created directly interact with the APMAX server, and are now available on the App Store so customers may use them in conjunction with their home set top boxes.

PROJECTS

ManageMyVMail

The first app we developed was a visual voicemail application (called ManageMyVMail) that allows users to view their home voicemails remotely as transcriptions as well as play them audibly on their Apple iOS mobile device. This app was already in progress when I began working for Innovative Systems, however we made several changes to it. Our biggest challenge was converting our service calls from SOAP to Protocol Buffers in order to increase speed and decrease the amount of space needed to support the app on the device. We also took advantage of the latest versions of XCode which support a storyboard format for the GUI instead of independent nib files. This allows us to see every view in the project in one place. We designed the format to be similar to other mobile e-mail or text messaging inboxes in order to make it as easy to use as possible. I worked specifically on creating the GUI for the inbox and message details. I also took care of getting the audio and allowing the user to play it, marking messages as

read and deleting them. I did this by implementing service calls in our service interface. We all worked together using HG with a central Mecerual Repository.

ManageMyTVs

The second app we developed was a DVR guide and controller for the APMAX Set Top Boxes (STB's) distributed by Innovative Systems. The app consists of several views that allow the user to view the TV guide, details on each program, change channels, create/edit/view recordings, search for programs etc. The app supports the management of multiple STB's in a home, allowing the user to switch back and forth at will. I worked primarily on the main guide and search screens.

Our progress on these apps was documented on Trello (<https://trello.com>), an interactive website that allowed both interns and mentors to post bugs and prioritized to-do lists. We were assigned duties in two-week "sprints", at the end of which we would re-evaluate and redistribute responsibilities accordingly. This system followed very closely with the agile development method Scrum. Trello made it easy to communicate continuously changing requirements to the group without having to schedule more meeting time.

CLOSING COMMENTS

This industrial experience was overall very helpful to me in that I learned Objective C, how to use XCode and the Mecerual Repository. I also learned a little about telecommunications and how we as programmers interact with an APMAX. However, what I liked most was working in a dynamic team environment. Our mentors, Brian Butterfield and David Springhetti were very helpful and supportive of each team as well as each individual. They pushed us to get our

projects done right and in a timely manner. I will miss working in such a positive and productive environment.

FIGURES

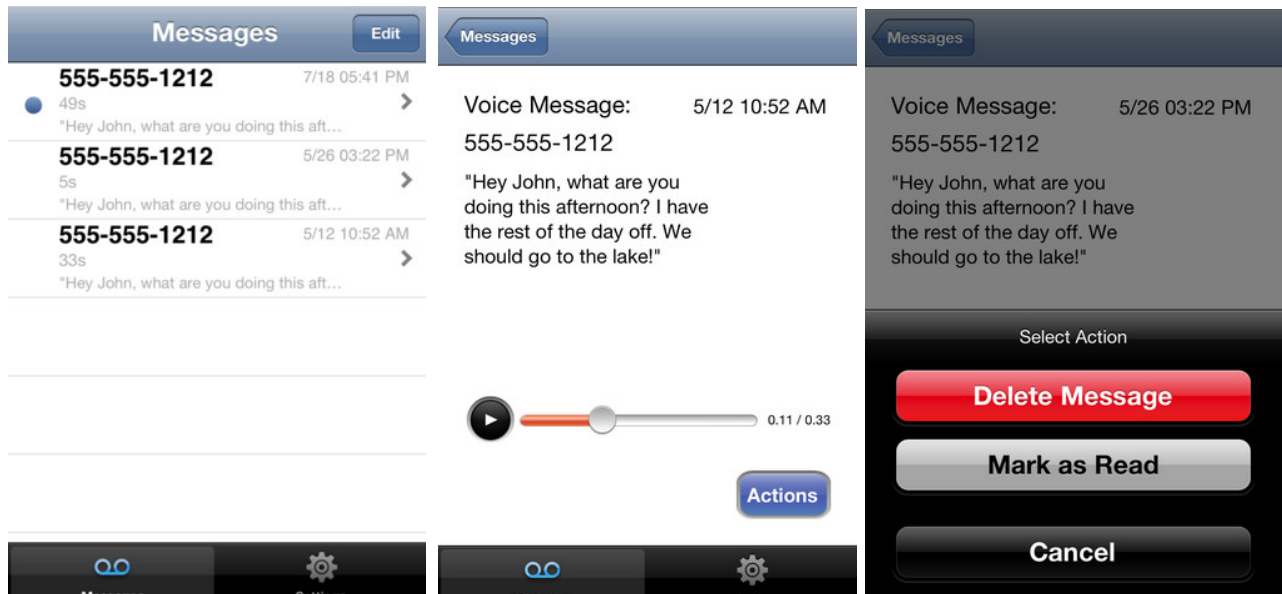


Figure 1: Screen shots of ManageMyVMail App

- More can be found at:

<http://itunes.apple.com/il/app/managemymail/id531845633?mt=8>



Figure 2: Screen shot of main guide screen in ManageMyTVs

- More can be found at:

<http://itunes.apple.com/us/app/managemytvs/id555410807?mt=8>